

## Worksheet for Determining Moisture/Density Relationships AASHTO T 99 AND AASHTO T 180

| Project:  |               |  |                     |          |            |      |              |       |      |     |    | Source:    |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
|---|---------------|--|---------------------|----------|------------|------|--------------|-------|------|-----|----|------------|------|-----------------------|------------|--------|------------|-------|-------|------|-----|-------|------|------------------|------|---------------|-------------|----------|-----|----------|----------|-----|----|--|---|
|   |               |  |                     |          |            |      |              |       |      |     |    |            | Qι   | Quantity represented: |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
| Comple of:  |               |  |                     |          |            |      |              |       |      |     | -  |            | t No |                       | Sample No. |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
|   |               |  |                     |          |            |      |              |       |      |     | _  | Tested by: |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
| Sampled by:   |               |  |                     |          |            |      |              |       |      |     |    |            |      | _                     |            |        |            |       |       |      |     | _     |      |                  |      |               |             |          |     |          |          |     |    |  |   |
|   | AASHTO T 99   |  |                     |          |            |      | AASHTO T 180 |       |      |     |    |            |      |                       |            | Method |            |       | A     |      |     |       | E    | _BC              |      |               | ; <u></u> D |          |     |          |          |     |    |  |   |
| Determination   |               |  |                     |          | ۱o. •      |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
| ning<br>(   | (a) Wet       |  | mold ta             | are      |            | [kg] |              |       |      |     | 1  |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          | $\perp$  |     |    |  |   |
| terr  | (b) Mold      |  |                     |          |            | [kg] |              |       |      |     | -  |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             | _        |     |          | $\dashv$ |     |    |  |   |
|   | (c) [a-b]     |  |                     |          |            | [kg] |              |       |      |     | +  |            |      |                       | 4          |        |            |       |       |      |     |       |      | +                |      |               |             |          |     |          | $\dashv$ |     |    |  |   |
| (d) Wet density (*)c [kg/m]  Dry density ( $\frac{C}{1+0.01w}$ ) [kg/m]   |               |  |                     |          |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  | -    |               |             | $\dashv$ |     |          |          |     |    |  |   |
| <u>a</u> L  | Dry den       | Sity (1                                      | + 0.01\<br>* Fo     |          |            |      | in to        | Jorga | 200  | uco |    | onet       | ant  | fact                  | tor 1      | 050    | 12         | for   | moth  | ods  | ۸ ۵ | nd (  | ` or | 470              | 74 f | or m          | othor       | de B     | and | <u> </u> |          | —   | —  |  |   |
| <b>-</b> [  |               |  |                     |          | No. •      | -    | III IC       | nerai | ice, | use | au | UHSI       | anı  | iau                   |            | 000    | 7.43       | 101 1 | Helli | lous | Αа  | iiu v | J () | <del>4</del> 70. | 741  | 01 1110       | 511100      | 12.0     | anu | D.       | _        |     |    |  |   |
| fio   | (r) Wat       | soil w                                       |                     |          | NO         | [g]  |              |       |      |     | +  |            |      |                       | +          |        |            |       |       |      |     |       |      |                  |      |               |             | -        |     |          | $\dashv$ | —   | —  |  |   |
| nin   | • •           | et soil wt. + tare [g] y soil wt. + tare [g] |                     |          |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      | +             |             |          | -   |          |          |     |    |  |   |
| (r) Wet soil wt. + tare [g]  (s) Dry soil wt. + tare [g]  (t) Tare [g]  (u) Dry soil wt. [s-t] [g]  (v) Water wt. [r-s] [g]  (w) Moisture ( |               |  |                     |          |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               | -           |          |     | $\dashv$ |          |     |    |  |   |
| e De  | (u) Dry       | soil wt                                      | . [s-t]             |          |            | [g]  |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
| stur  | (v) Wate      |  |                     |          |            | [g]  |              |       |      |     | +  |            |      |                       | +          |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          | $\dashv$ |     |    |  |   |
| Moi   | [%]           |  |                     |          |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
|   |               | r.   | Ury Density (kg/m ) |          |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |
| Maximum   | Dry Do-       | neitu:                                       |                     |          |            |      |              |       | 1    |     |    |            |      |                       | ++         |        |            |       |       | 1    | 1   |       |      |                  | -    |               |             |          |     | 1        | +++      | +++ | ++ |  |   |
| iviaxiiIIUIII   | -             | /m³  |                     | <b>.</b> |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     | 11 |  |   |
| 0-4-  |               |  |                     | H        |            | +    | 1-1-         |       | +    |     |    |            |      | $\dashv$              | +++        |        |            |       |       | H    |     |       |      |                  | +    |               |             | +++      | +   | +        | +        | +   | +  |  | 4 |
| Optimum I   | Moisture<br>% | ):<br>:                                      |                     |          | <br>  <br> |      |              |       |      |     |    |            |      |                       | i          |        | <br>  <br> |       |       |      |     |       |      |                  |      | ++<br>++<br>+ |             |          |     |          |          |     |    |  |   |
|   |               |  |                     |          |            |      |              |       |      |     |    |            |      |                       |            |        |            |       |       |      |     |       |      |                  |      |               |             |          |     |          |          |     |    |  |   |